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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/470,424 06/06/95 YOKOMIZO

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EXAMINER

020457 PM82/0226
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BEHREND, H
ART UNIT PAPER NUMBER

3641
DATE MAILED:

37

02/26/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/470424

Applicant(s)

Yokomizo et al

Examiner

Behrend

Group Art Unit

3641

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to communication(s) filed on 11/7/00

☒ This action is **FINAL**.

- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 24, 26, 29, 40-43, 50, 52-63 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 24, 26, 29, 40-43, 50, 52-63 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

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1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 24, 26, 29, 40-43, 50, 52, 53, 56-59, 61-63 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the original disclosure (including page 15 line 33 to page 16 line 3 (see page 6 of the 3/27/00 response)) for the limitation of the definition of the fuel cycle in lines 12-17 of claim 24, lines 26-31 of claim 52, lines 9-14 of claim 56, lines 12-17 of claim 61, lines 26-31 of claim 62 and lines 9-14 of claim 63.

Note that the above referred to limitations in applicants claims incorrectly indicate that the “renewing” takes place while the fuel assembly is in the nuclear reactor.

Section 2 on page 2 of the 6/7/00 Office action inadvertently contained a typo (the word “no” had not been typed in before the word “support”).

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It is readily apparent that such is a typo because the rejection in said section 2 on page 2 of the 6/7/00 Office action could not have been made if the original disclosure provided support for the amendments to said claims 24, 52 and 56.

Applicant is improperly relying on the disclosure of U.S. patent 4,285,769 for support for the limitations in the claims (particularly the reference to renewing a portion of the fuel assemblies).

Applicant argues that 4,285,769 is referred to in the present specification on page 19 line 29.

However, said page 19 does not incorporate by reference, the subject matter of 4,285,769.

3. Claims 24, 26, 29, 40-43, 50, 52, 53, 56-59, 61-63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are vague, indefinite, incomplete, misdescriptive and inaccurate in indicating that the renewing of the fuel assembly takes place while the fuel assembly is still in the nuclear reactor.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 24, 50, 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 61256282 in view of Sofer, for the reasons set forth in section 5 of the 6/7/00 Office action (which itself refers back to section 3 of the 8/25/99 Office action)..

Applicants arguments are unpersuasive.

Applicant has improperly modified the primary reference Japan 61256282 in view of U.S. 4,285,769 and then taken the position that his claims do not read on his proposed modification of Japan 61256282 in view of U.S. 4,285,769.

However, it is immaterial as to whether or not the claims read on the teachings of Japan 61256282 in view of U.S. 4,285,769 because the examiner has never raised such as an issue.

Instead, the examiner has held applicants claims unpatentable over the teachings of Japan 61256282 in view of Sofer (U.S. 3,910,818).

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Japan 61256282 clearly indicates that the fuel assembly remains in the reactor core for a whole or complete combustion cycle (fuel cycle) without shuffling.

Page 9 of the English language translation of Japan 61256282 (and Figs. 5 and 6) clearly indicate that the flow through the water rod is adjusted (e.g. in the manner shown in Figs. 5 and 6) during periodic inspection (not reactor shutdown for replacing (renewing) fuel assemblies).

Applicants argument in the second full paragraph on page 17 of the 11/7/00 response is immaterial because the rejection is not on Japan 61256282 by itself.

Applicants argument (page 18 of the 11/7/00 response) that Sofer does not teach the rise of the coolant surface formed in a water rod, is also immaterial because the examiner has not relied on Sofer for a teaching of such.

As pointed out in said section 3 of the 8/25/99 Office action, both Japan 61256282 and Sofer teach it is advantageous to change the amount of voids in the reactor core during a fuel cycle (combustion cycle) so as to take advantage of the spectral shift effect.

Accordingly, it is maintained that it would have been prima facie obvious to have modified Japan 61256282 by producing the desired change in the amount of voids in the water rod during a fuel cycle, by the teachings in Sofer of an “especially simple and economical” manner of changing the coolant flow rate of the circulation pumps (as an alternative to the obviously more costly and laboriously manner of changing the amount of voids in the manner

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shown in Figs. 5 and 9 and described on page 9 of the English language translation of Japan 61256282).

7. Claims 24, 50, 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Japan 0220686 or Japan 0031090 in view of Sofer alone or with Japan 61256282, for the reasons set forth in section 6 of the 6/7/00 Office action (which itself refers back to section 3 of the 8/25/99 Office action).

It is again pointed out that the primary references each clearly teach that the screen only is removed for the third and subsequent portions of the fuel cycle (not that the fuel assembly itself is removed).

In any event, if necessary, Japan 61256282 may be relied in for a showing that it is old in the art and hence obvious, to leave the fuel assembly in the core and merely change the amount of flow therethrough between a first and second part of a fuel cycle, without replacing or even shuffling the fuel assembly.

Note also, the discussion of applicants arguments in section 6 above.

8. Claims 24, 26, 29, 40-43, 50, 52-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matzner in view of Sofer taken with Japan 61256282, for the reasons set forth in section 5 of the 8/25/99 Office action.

Note the discussion of applicants arguments in section 6 above.

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9. Claims 24, 26, 29, 40-43, 50, 52-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matzner in view of Sofer and Japan 61256282 as applied to claims 24, 26, 29, 40-43, 50, 52-63 above, and further in view of applicants own admission of prior art in the specification (e.g. see page 25).

Claims such as claim 53, refer to use of particular flow rate percentages. However, the use of the claimed flow rate percentages in the primary reference would have been prima facie obvious in view of the teachings thereof in the admitted prior art in the specification.

10. Claims 24, 26, 29, 40-43, 50, 52-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 61256282, in view of Sofer as applied to claims 24, 50, ⁶¹~~60~~ above, and further in view of Matzner, or Kumpf, for the reasons set forth in section 8 of the 8/25/99 Office action.

11. Claims 24, 26, 29, 40-43, 50, 52-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Japan 0220686 of Japan 0031090, in view of Sofer alone or with Japan 61256282, as applied to claims 24, 50, 61 above, and further in view of Matzner, or Kumpf, for the reasons set forth in section 8 of the 8/25/99 Office action.


12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication should be directed to Mr. Behrend at telephone number (703) 305-1831.

Behrend/cw
January 31, 2001

A handwritten signature in black ink, appearing to read 'H. Behrend', with a large, stylized loop at the end.

**HARVEY E. BEHREND
PRIMARY EXAMINER**